This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) A microfluidic device comprising:

a substrate; and

~~a plurality of microvolumes~~ a microvolume at least partially defined by the substrate the microvolume comprising ~~, each microvolume comprising a first submicrovolume and a second submicrovolume that is in fluid communication with the first submicrovolume when the device is rotated, the plurality of microvolumes being arranged in the device such that fluid in the first submicrovolumes of multiple of the microvolumes are transported to second submicrovolumes of the associated microvolumes when the device is rotated~~

an inlet chamber,

a measurement channel in fluid communication with the inlet chamber, and

an experiment chamber;

wherein rotation of the device about a first axis causes fluid in the inlet chamber to be transferred to the measurement channel, and rotation of the device about a second axis causes fluid in the measurement channel to be transferred to the experiment chamber.

2. (currently amended) A microfluidic device according to claim 1 wherein fluid in the ~~first submicrovolumes are transported to the second submicrovolumes~~ inlet chamber is transferred to the measurement channel when the device is rotated so that a force of at least 0.01 g is applied to fluid in the ~~first submicrovolumes~~ inlet chamber.

3. (currently amended) A microfluidic device according to claim 1 wherein fluid in the ~~first submicrovolumes are transported to the second submicrovolumes~~ inlet chamber is transferred to the measurement channel when the device is rotated so that a force of at least 0.1 g is applied to fluid in the ~~first submicrovolumes~~ inlet chamber.

4. (currently amended) A microfluidic device according to claim 1 wherein fluid in the ~~first submicrovolumes are transported to the second submicrovolumes~~ inlet chamber is transferred to the measurement channel when the device is rotated so that a force of at least 1 g is applied to fluid in the ~~first submicrovolumes~~ inlet chamber.

5. (currently amended) A microfluidic device according to claim 1 wherein fluid in the ~~first submicrovolumes are transported to the second submicrovolumes~~ inlet chamber is transferred to the measurement channel when the device is rotated so that a force of at least 10 g is applied to fluid in the ~~first submicrovolumes~~ inlet chamber.

6. (currently amended) A microfluidic device according to claim 1 wherein fluid in the ~~first submicrovolumes are transported to the second submicrovolumes~~ inlet chamber is transferred to the measurement channel when the device is rotated so that a force of at least 100 g is applied to fluid in the ~~first submicrovolumes~~ inlet chamber.

7. (currently amended) A microfluidic device according to claim 1 wherein fluid in the ~~first submicrovolumes are transported to the second submicrovolumes~~ inlet chamber is transferred to the measurement channel when the device is rotated at least 10 rpm.

8. (currently amended) A microfluidic device according to claim 1 wherein fluid in the ~~first submicrovolumes are transported to the second submicrovolumes~~ inlet chamber is transferred to the measurement channel when the device is rotated at least 50 rpm.

9. (currently amended) A microfluidic device according to claim 1 wherein fluid in the ~~first submicrovolumes are transported to the second submicrovolumes~~ inlet chamber is transferred to the measurement channel when the device is rotated at least 100 rpm.

10. (currently amended) A microfluidic device according to claim 1 wherein the ~~second submicrovolumes are lumens~~ measurement channel is a lumen having a cross sectional diameter of less than 2.5 mm.

11. (currently amended) A microfluidic device according to claim 1 wherein the ~~second submicrovolumes are lumens~~ measurement channel is a lumen having a cross sectional diameter of less than 2.5 mm.

12. (currently amended) A microfluidic device according to claim 1 wherein the ~~second submicrovolumes are lumens~~ measurement channel is a lumen having a cross sectional diameter of less than 500 microns.

13. (currently amended) A microfluidic device according to claim ~~1~~ 62 wherein fluid in the ~~first submicrovolumes~~ inlet chambers of at least 4 of the microvolumes are ~~transported~~ transferred to ~~second submicrovolumes of the associated microvolumes~~ associated measurement channels when the device is rotated.

14. (currently amended) A microfluidic device according to claim ~~1~~ 62 wherein fluid in the ~~first submicrovolumes~~ inlet chambers of at least 8 of the microvolumes are ~~transported~~ transferred to ~~second submicrovolumes of the associated microvolumes~~ associated measurement channels when the device is rotated.

15. (currently amended) A microfluidic device according to claim ~~1~~ 62 wherein fluid in the ~~first submicrovolumes~~ inlet chambers of at least 12 of the microvolumes are ~~transported~~ transferred to ~~second submicrovolumes of the associated microvolumes~~ associated measurement channels when the device is rotated.

16. (currently amended) A microfluidic device according to claim ~~1~~ 62 wherein fluid in the ~~first submicrovolumes~~ inlet chambers of at least 36 of the microvolumes are ~~transported~~ transferred to ~~second submicrovolumes of the associated microvolumes~~ associated measurement channels when the device is rotated.

17. (currently amended) A microfluidic device according to claim ~~1~~ 62 wherein fluid in the ~~first submicrovolumes~~ inlet chambers of at least 96 of the microvolumes are ~~transported~~

transferred to ~~second submicrovolumes of the associated microvolumes~~ associated measurement channels when the device is rotated.

18. (currently amended) A microfluidic device according to claim ~~1~~ 62 wherein fluid in the ~~first submicrovolumes~~ inlet chambers of at least 200 of the microvolumes are ~~transported~~ transferred to ~~second submicrovolumes of the associated microvolumes~~ associated measurement channels when the device is rotated.

19. (currently amended) A microfluidic device according to claim ~~1~~ 62 wherein the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolume~~ inlet chamber to the ~~second submicrovolume~~ associated measurement channel of a given microvolume upon rotation of the device is within 50% of the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolumes~~ inlet chamber to the ~~second submicrovolumes~~ associated measurement channel of any other ~~microvolumes when a same volume of fluid is added to the first submicrovolumes~~ microvolume when the volume of fluid added to the inlet chamber exceeds the volume of the measurement channel.

20. (currently amended) A microfluidic device according to claim ~~1~~ 62 wherein the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolume~~ inlet chamber to the ~~second submicrovolume~~ associated measurement channel of a given microvolume upon rotation of the device is within 25% of the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolumes~~ inlet chamber to the ~~second submicrovolumes~~ associated measurement channel of any other ~~microvolumes when a same volume of fluid is added to the first submicrovolumes~~ microvolume when the volume of fluid added to the inlet chamber exceeds the volume of the measurement channel.

21. (currently amended) A microfluidic device according to claim ~~1~~ 62 wherein the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolume~~ inlet chamber to the ~~second submicrovolume~~ associated measurement channel of a given microvolume upon rotation of the device is within 10% of the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolumes~~

inlet chamber to the ~~second submicrovolumes~~ associated measurement channel of any other ~~microvolumes when a same volume of fluid is added to the first submicrovolumes~~ microvolume when the volume of fluid added to the inlet chamber exceeds the volume of the measurement channel.

22. (currently amended) A microfluidic device according to claim ~~1~~ 62 wherein the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolume~~ inlet chamber to the ~~second submicrovolume~~ associated measurement channel of a given microvolume upon rotation of the device is within 5% of the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolumes~~ inlet chamber to the ~~second submicrovolumes~~ associated measurement channel of any other ~~microvolumes when a same volume of fluid is added to the first submicrovolumes~~ microvolume when the volume of fluid added to the inlet chamber exceeds the volume of the measurement channel.

23. (currently amended) A microfluidic device according to claim ~~1~~ 62 wherein the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolume~~ inlet chamber to the ~~second submicrovolume~~ associated measurement channel of a given microvolume upon rotation of the device is within 2% of the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolumes~~ inlet chamber to the ~~second submicrovolumes~~ associated measurement channel of any other ~~microvolumes when a same volume of fluid is added to the first submicrovolumes~~ microvolume when the volume of fluid added to the inlet chamber exceeds the volume of the measurement channel.

24. (currently amended) A microfluidic device according to claim ~~1~~ 62 wherein the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolume~~ inlet chamber to the ~~second submicrovolume~~ associated measurement channel of a given microvolume upon rotation of the device is within 1% of the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolumes~~ inlet chamber to the ~~second submicrovolumes~~ associated measurement channel of any other ~~microvolumes when a same volume of fluid is added to the first submicrovolumes~~ microvolume

when the volume of fluid added to the inlet chamber exceeds the volume of the measurement channel.

25. (original) A microfluidic device according to claim 1, wherein the substrate comprises a member of the group consisting of polymethylmethacrylate, polycarbonate, polyethylene polypropylene, polystyrene, cellulose acetate, cellulose nitrate, polysulfones, styrene copolymers, glass, and fused silica.

26. (original) A microfluidic device according to claim 1, wherein the substrate is optically transparent.

27. (currently amended) A microfluidic method comprising:

taking a microfluidic device comprising a substrate, and ~~a plurality of microvolumes at least partially defined by the substrate, each microvolume comprising a first submicrovolume and a second submicrovolume where the first submicrovolume and second submicrovolume are in fluid communication with each other when the device is rotated~~ a microvolume at least partially defined by the substrate, the microvolume comprising an inlet chamber, a measurement channel in fluid communication with the inlet chamber, and an experiment chamber;

adding fluid ~~to a plurality of the first submicrovolumes~~ comprising crystallization agents to the inlet chamber; ~~and~~

rotating the device about a first axis to cause the fluid ~~from the plurality of first submicrovolumes to be transferred to the second submicrovolumes in fluid communication with the first submicrovolumes~~ in the inlet chamber to be transferred to the measurement channel; and

rotating of the device about a second axis to cause fluid in the measurement channel to be transferred to the experiment chamber.

28. (currently amended) A microfluidic method according to claim 27 wherein at least 0.01 g is applied to fluid in the ~~first submicrovolumes~~ inlet chamber during rotation of the device about the first axis to cause ~~the fluid from the first submicrovolumes~~ fluid in the inlet chamber to be transferred to the ~~second submicrovolumes~~ measurement channel.

29. (currently amended) A microfluidic method according to claim 27 wherein at least 0.1 g is applied to fluid in the ~~first submicrovolumes~~ inlet chamber during rotation of the device about the first axis to cause ~~the fluid from the first submicrovolumes~~ fluid in the inlet chamber to be transferred to the ~~second submicrovolumes~~ measurement channel.

30. (currently amended) A microfluidic method according to claim 27 wherein at least 1 g is applied to fluid in the ~~first submicrovolumes~~ inlet chamber during rotation of the device about the first axis to cause ~~the fluid from the first submicrovolumes~~ fluid in the inlet chamber to be transferred to the ~~second submicrovolumes~~ measurement channel.

31. (currently amended) A microfluidic method according to claim 27 wherein at least 10 g is applied to fluid in the ~~first submicrovolumes~~ inlet chamber during rotation of the device about the first axis to cause ~~the fluid from the first submicrovolumes~~ fluid in the inlet chamber to be transferred to the ~~second submicrovolumes~~ measurement channel.

32. (currently amended) A microfluidic method according to claim 27 wherein at least 100 g is applied to fluid in the ~~first submicrovolumes~~ inlet chamber during rotation of the device about the first axis to cause ~~the fluid from the first submicrovolumes~~ fluid in the inlet chamber to be transferred to the ~~second submicrovolumes~~ measurement channel.

33. (currently amended) A microfluidic method according to claim 27 wherein the device is rotated at least 10 rpm in order to cause fluid from the inlet chamber to be transferred to the measurement channel.

34. (currently amended) A microfluidic method according to claim 27 wherein the device is rotated at least 50 rpm in order to cause fluid from the inlet chamber to be transferred to the measurement channel.

35. (currently amended) A microfluidic method according to claim 27 wherein the device is rotated at least 100 rpm in order to cause fluid from the inlet chamber to be transferred to the measurement channel.

36. (currently amended) A microfluidic method according to claim 27 wherein the ~~second submicrovolumes have~~ measurement channel is a lumen with a cross sectional diameter of less than 2.5 mm.

37. (currently amended) A microfluidic method according to claim 27 wherein the ~~second submicrovolumes have~~ measurement channel is a lumen with a cross sectional diameter of less than 1 mm.

38. (currently amended) A microfluidic method according to claim 27 wherein the ~~second submicrovolumes have~~ measurement channel is a lumen with a cross sectional diameter of less than 500 microns.

39. (currently amended) A microfluidic method according to claim ~~27~~ 71 wherein fluid is added to at least 4 different ~~first submicrovolumes~~ inlet chambers and transferred to the associated ~~second submicrovolumes~~ measurement channels during rotation.

40. (currently amended) A microfluidic method according to claim ~~27~~ 71 wherein fluid is added to at least 8 different ~~first submicrovolumes~~ inlet chambers and transferred to the associated ~~second submicrovolumes~~ measurement channels during rotation.

41. (currently amended) A microfluidic method according to claim ~~27~~ 71 wherein fluid is added to at least 12 different ~~first submicrovolumes~~ inlet chambers and transferred to the associated ~~second submicrovolumes~~ measurement channels during rotation.

42. (currently amended) A microfluidic method according to claim ~~27~~ 71 wherein fluid is added to at least 24 different ~~first submicrovolumes~~ inlet chambers and transferred to the associated ~~second submicrovolumes~~ measurement channels during rotation.

43. (currently amended) A microfluidic method according to claim ~~27~~ 71 wherein fluid is added to at least 96 different ~~first submicrovolumes~~ inlet chambers and transferred to the associated ~~second submicrovolumes~~ measurement channels during rotation.

44. (currently amended) A microfluidic method according to claim ~~27~~ 71 wherein fluid is added to at least 200 different ~~first submicrovolumes~~ inlet chambers and transferred to the associated ~~second submicrovolumes~~ measurement channels during rotation.

45. (currently amended) A microfluidic method according to claim ~~27~~ 71 wherein the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolume~~ inlet chamber to the ~~second submicrovolume~~ associated measurement channel of a given microvolume upon rotation of the device is within 50% of the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolumes~~ inlet chamber to the ~~second submicrovolumes~~ associated measurement channel of any other ~~microvolumes when a same volume of fluid is added to the different first submicrovolumes~~ microvolume when the volume of fluid added to the inlet chamber exceeds the volume of the measurement channel.

46. (currently amended) A microfluidic method according to claim ~~27~~ 71 wherein the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolume~~ inlet chamber to the ~~second submicrovolume~~ associated measurement channel of a given microvolume upon rotation of the device is within 25% of the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolumes~~ inlet chamber to the ~~second submicrovolumes~~ associated measurement channel of any other ~~microvolumes when a same volume of fluid is added to the different first submicrovolumes~~ microvolume when the volume of fluid added to the inlet chamber exceeds the volume of the measurement channel.

47. (currently amended) A microfluidic method according to claim ~~27~~ 71 wherein the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolume~~ inlet chamber to the ~~second submicrovolume~~ associated measurement channel of a given microvolume upon rotation of the device is within 10% of the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolumes~~ inlet chamber to the ~~second submicrovolumes~~ associated measurement channel of any other ~~microvolumes when a same volume of fluid is added to the different first submicrovolumes~~ microvolume when the volume of fluid added to the inlet chamber exceeds the volume of the measurement channel.

48. (currently amended) A microfluidic method according to claim ~~27~~ 71 wherein the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolume~~ inlet chamber to the ~~second submicrovolume~~ associated measurement channel of a given microvolume upon rotation of the device is within 5% of the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolumes~~ inlet chamber to the ~~second submicrovolumes~~ associated measurement channel of any other ~~microvolumes when a same volume of fluid is added to the different first submicrovolumes~~ microvolume when the volume of fluid added to the inlet chamber exceeds the volume of the measurement channel.

49. (currently amended) A microfluidic method according to claim ~~27~~ 71 wherein the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolume~~ inlet chamber to the ~~second submicrovolume~~ associated measurement channel of a given microvolume upon rotation of the device is within 2% of the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolumes~~ inlet chamber to the ~~second submicrovolumes~~ associated measurement channel of any other ~~microvolumes when a same volume of fluid is added to the different first submicrovolumes~~ microvolume when the volume of fluid added to the inlet chamber exceeds the volume of the measurement channel.

50. (currently amended) A microfluidic method according to claim ~~27~~ 71 wherein the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolume~~ inlet chamber to the ~~second submicrovolume~~ associated measurement channel of a given microvolume upon rotation of the device is within 1% of the volume of fluid

device is within 1% of the volume of fluid ~~delivered~~ transferred from the ~~first submicrovolumes~~ inlet chamber to the ~~second submicrovolumes~~ associated measurement channel of any other ~~microvolumes when a same volume of fluid is added to the different first submicrovolumes~~ microvolume when the volume of fluid added to the inlet chamber exceeds the volume of the measurement channel.

51. (currently amended) A microfluidic method according to claim ~~27~~ 71 wherein the ~~method is performed as part of performing an array crystallization trial~~ composition of the fluid comprising crystallization agents added to the inlet chambers varies among the different inlet chambers.

52. (currently amended) A microfluidic method according to claim ~~27~~ 71 ~~wherein the array crystallization trial involves the crystallization of a protein~~ the method further comprising adding a protein to be crystallized to the device.

Claims 53-55 (canceled)

56. (currently amended) A microfluidic method comprising:

taking a plurality of microfluidic devices, each ~~comprising a substrate, and a plurality of microvolumes at least partially defined by the substrate, each sample microvolume comprising a first submicrovolume and a second submicrovolume where the first submicrovolume and second submicrovolume are in fluid communication with each other when the device is rotated~~ device comprising a substrate, and a plurality of microvolumes at least partially defined by the substrate, each microvolume comprising an inlet chamber, a measurement channel in fluid communication with the inlet chamber, and an experiment chamber;

adding fluid ~~to a plurality of the first submicrovolumes in the plurality of microfluidic devices~~ comprising crystallization agents to the inlet chambers of the plurality of microvolumes; and

rotating the plurality of microfluidic devices at the same time ~~to cause fluid from the plurality of first submicrovolumes to be transferred to the second submicrovolumes in fluid~~

~~communication with the first submicrovolumes~~ about a second axis to cause the fluid in the measurement channels to be transferred to the experiment chambers.

57. (original) A microfluidic method according to claim 56 wherein the plurality of microfluidic devices are stacked relative to each other during rotation.

58. (canceled)

59. (currently amended) A microfluidic method according to claim ~~58~~ 57 wherein at least one of the first and second rotational ~~axis~~ axes about which the plurality of microfluidic devices are rotated is positioned within the lateral footprints of the plurality of microfluidic devices.

60. (currently amended) A microfluidic method according to claim ~~58~~ 57 wherein both the first and second rotational ~~axis~~ axes about which the plurality of microfluidic devices are rotated is positioned ~~outside of~~ within the lateral footprints of the plurality of microfluidic devices.

61. (new) A microfluidic device according to claim 1, further comprising

a waste channel in fluid communication with the inlet chamber; and

a waste reservoir in fluid communication with the inlet chamber via the waste channel;

wherein rotation of the device about a third axis causes fluid in the inlet chamber remaining after rotation about the first axis to be transferred to the measurement channel.

62. (new) A microfluidic device comprising:

a substrate; and

a plurality of microvolumes at least partially defined by the substrate, each microvolume comprising

an inlet chamber,

a measurement channel in fluid communication with the inlet chamber, and

an experiment chamber;

wherein rotation of the device about a first axis causes fluid in the inlet chambers of a plurality of the microvolumes to be transferred to the associated measurement channels, and rotation of the device about a second axis causes fluid in the measurement channels to be transferred to the associated experiment chamber.

63. (new) A microfluidic device according to claim 62 wherein fluid in the inlet chambers is transferred to the associated measurement channels when the device is rotated so that a force of at least 0.01 g is applied to fluid in the inlet chambers.

64. (new) A microfluidic device according to claim 62 wherein fluid in the inlet chambers is transferred to the associated measurement channels when the device is rotated so that a force of at least 0.1 g is applied to fluid in the inlet chambers.

65. (new) A microfluidic device according to claim 62 wherein fluid in the inlet chambers is transferred to the associated measurement channels when the device is rotated so that a force of at least 1 g is applied to fluid in the inlet chambers.

66. (new) A microfluidic device according to claim 62 wherein fluid in the inlet chambers is transferred to the associated measurement channels when the device is rotated so that a force of at least 10 g is applied to fluid in the inlet chambers.

67. (new) A microfluidic device according to claim 62 wherein fluid in the inlet chambers is transferred to the associated measurement channels when the device is rotated so that a force of at least 100 g is applied to fluid in the inlet chambers.

68. (new) A microfluidic device according to claim 62 wherein fluid in the inlet chambers is transferred to the associated measurement channels when the device is rotated at least 10 rpm.

69. (new) A microfluidic device according to claim 62 wherein fluid in the inlet chambers is transferred to the associated measurement channels when the device is rotated at least 50 rpm.

70. (new) A microfluidic device according to claim 62 wherein fluid in the inlet chambers is transferred to the associated measurement channels when the device is rotated at least 100 rpm.

71. (new) A microfluidic method comprising:

taking a microfluidic device comprising a substrate, and a plurality of microvolumes at least partially defined by the substrate, each microvolume comprising an inlet chamber, a measurement channel in fluid communication with the inlet chamber, and an experiment chamber;

adding fluid comprising crystallization agents to the inlet chambers of the plurality of microvolumes;

rotating the device about a first axis to cause fluid in the inlet chambers to be transferred to the measurement channels; and

rotating of the device about a second axis to cause fluid in the measurement channels to be transferred to the experiment chambers.

72. (new) A microfluidic method comprising:

taking a microfluidic device comprising a substrate, and a plurality of microvolumes at least partially defined by the substrate, each microvolume comprising an inlet chamber, a measurement channel in fluid communication with the inlet chamber, and an experiment chamber comprising crystallization agents;

adding fluid comprising a protein to be crystallized to the inlet chambers of the plurality of microvolumes;

rotating the device about a first axis to cause fluid in the inlet chambers to be transferred to the measurement channels; and

rotating of the device about a second axis to cause fluid in the measurement channels to be transferred to the experiment chambers and form crystallization experiments with the crystallization agents.

73. (new) A microfluidic method according to claim 72 wherein fluid is added to at least 4 different inlet chambers and transferred to the associated measurement channels during rotation.

74. (new) A microfluidic method according to claim 72 wherein fluid is added to at least 8 different inlet chambers and transferred to the associated measurement channels during rotation.

75. (new) A microfluidic method according to claim 72 wherein fluid is added to at least 12 different inlet chambers and transferred to the associated measurement channels during rotation.

76. (new) A microfluidic method according to claim 72 wherein fluid is added to at least 24 different inlet chambers and transferred to the associated measurement channels during rotation.

77. (new) A microfluidic method according to claim 72 wherein fluid is added to at least 96 different inlet chambers and transferred to the associated measurement channels during rotation.

78. (new) A microfluidic method according to claim 72 wherein the volume of fluid transferred from the inlet chamber to the associated measurement channel of a given microvolume upon rotation of the device is within 50% of the volume of fluid transferred from the inlet chamber to the associated measurement channel of any other microvolume when the volume of fluid added to the inlet chamber exceeds the volume of the measurement channel.

79. (new) A microfluidic method according to claim 72 wherein the volume of fluid transferred from the inlet chamber to the associated measurement channel of a given microvolume upon rotation of the device is within 25% of the volume of fluid transferred from the inlet chamber to the associated measurement channel of any other microvolume when the volume of fluid added to the inlet chamber exceeds the volume of the measurement channel.

80. (new) A microfluidic method according to claim 72 wherein the volume of fluid transferred from the inlet chamber to the associated measurement channel of a given microvolume upon rotation of the device is within 10% of the volume of fluid transferred from

the inlet chamber to the associated measurement channel of any other microvolume when the volume of fluid added to the inlet chamber exceeds the volume of the measurement channel.

81. (new) A microfluidic method according to claim 72 wherein the volume of fluid transferred from the inlet chamber to the associated measurement channel of a given microvolume upon rotation of the device is within 5% of the volume of fluid transferred from the inlet chamber to the associated measurement channel of any other microvolume when the volume of fluid added to the inlet chamber exceeds the volume of the measurement channel.

82. (new) A microfluidic method according to claim 72 wherein the volume of fluid transferred from the inlet chamber to the associated measurement channel of a given microvolume upon rotation of the device is within 2% of the volume of fluid transferred from the inlet chamber to the associated measurement channel of any other microvolume when the volume of fluid added to the inlet chamber exceeds the volume of the measurement channel.

83. (new) A microfluidic method according to claim 72 wherein the volume of fluid transferred from the inlet chamber to the associated measurement channel of a given microvolume upon rotation of the device is within 1% of the volume of fluid transferred from the inlet chamber to the associated measurement channel of any other microvolume when the volume of fluid added to the inlet chamber exceeds the volume of the measurement channel.

84. (new) A microfluidic method according to claim 72 wherein the composition of the crystallization agents varies among the different experiment chambers.

85. (new) A microfluidic method according to claim 56 wherein the composition of the crystallization agents added to the inlet chambers varies among the different inlet chambers.

86. (new) A microfluidic method according to claim 71 wherein the composition of the crystallization agents added to the inlet chambers varies among the different inlet chambers.